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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,764	02/15/2001	R. Stephen Mulder	7661-000007	2346
27572	7590	10/10/2003	EXAMINER NGUYEN, TU T	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			ART UNIT 2877	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/784,764

Applicant(s)

MULDER, R. STEPHEN

Examiner

Tu T. Nguyen

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15 and 16 is/are allowed.
- 6) ☐ Claim(s) 1-14 and 17-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other:

Detailed Office Action

***Claim Objections***

Claim 17 is objected to because of the following informalities:

Claim 17, line 5, "a part" should be corrected to "the part".

***Double Patenting***

Claim 14 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 13. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 U.S.C. § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claims 1,9, there is no connection between a signal detector, a lock-in amplifier, a meter. It is not clear how they are related or connected together?

With respect to claims 2-8,10-14, the claims are rejected as being depended on the rejected claim.

***Claim Rejections - 35 U.S.C. § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7,9-14,17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Egan et al (4,097,751).

With respect to claims 1,5,9-11,17, Egan discloses a system for measuring a retroreflectance. The system comprises: a light source 14 (fig 1), a light modulating device 18 (fig 1), a detector 24 (fig 1).

Egan does not explicitly disclose a collimating lens. However, Egan discloses using a source of collimated radiation (abstract). It would have been obvious to modify Egan with a collimating lens so that the system can be used with different light sources.

Egan does not disclose a lock-in amplifier, a focal plane, a meter. The claimed limitations would have been known. It would have been obvious to modify Egan with the known limitations to facilitate the measuring.

Egan does not disclose a housing or a sample holder. However, it would have been obvious to modify Egan's system with a housing or a sample holder to reduce system noise.

With respect to claims 2-4, using a fiber for transmitting a signal would have been known. It would have been obvious to modify Egan's system with plurality of fibers to transmit the signals between the elements to make the system more accurate.

With respect to claims 6,12, Egan discloses a chopper motor 32 (fig 1) which performs the same function as the claimed fan. Egan does not explicitly disclose the rate of the modulation. However, it would have been obvious to modify Egan's modulator with different rates for measuring different objects.

With respect to claims 7,13-14,19 the claimed electronically modulated laser diode would have been known. It would have been obvious to modify Egan with the known electronically modulated laser diode to reduce the system component.

With respect to claims 18,20, it would have been obvious a design to modify Egan's method to test a plurality parts without changing the setup to save the testing time. Further, it would have been obvious to modify Egan with a known filter for filtering out excess noise to use the system in different environments.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Egan et al (4,097,751) in view of Kazumi (JP 05-265649).

With respect to claim 8, Egan does not disclose a collimating lens as claimed. However, Kazumi discloses the claimed lens 3 (fig 1). It would have been obvious to combine

Egan with Kazumi's lens to facilitate the testing.

*Allowable Subject Matter*

Claims 15-16 are allowed.

Prior arts of record does not disclose a method of testing a reflect part using a comparator. The method comprises: providing a modulated light beam and split the signal into a reference and an output signal, directing the output signal to a focal plane, directing the reference signal to an amplifier, diverging the output signal to a collimating lens so as to create parallel beams of light engaging the surface of a reflex part to be tested, bouncing returning beams of light onto the collimating lens and directing the returning beams to an input fiber optic member located at the focal plane to create an input signal, transmitting the input signal from the focal plane to an amplifier, processing the input signal and the reference signal so as to create a voltage output indicative of the light characteristic of the reflex part which structurally arranged and functionally operated as claimed in claim 15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu T Nguyen whose telephone number is (703) 306-9185. The examiner can normally be reached on M-T 7:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on (703) 308-4881. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read 'T. Nguyen', with a long, sweeping horizontal line extending to the right.

**Tu T. Nguyen**  
**Primary Examiner**  
**Group Art Unit 2877**

9/26/03